Viewer 1.4 Software/Hardware Package – Preliminary P/N 7062

The following document covers Viewer 1.4 Upgrade Kit for the SAM 940.

With Viewer 1.4 installed and a detector calibration for efficiency performed, contamination levels at 10 Bq can be measured. The Viewer 1.4 Kit includes –

- Viewer 1.4 Windows Software
- Lead Shield System for 2G or 3G detector
- Plastic Beakers
- 90 Degree Cable for Detector to SAM 940
- User Manual

Viewer 1.4 includes the same functionality and layout as 1.3. The File menu selection allows real time data analysis as well as analysis from CF card spectra.

File Menu is as Follows

- Streaming Data
- Perform Eff Calibration
- Open Spectrum File
- Save Report as…
- Printer Set Up
- Print Preview
- Print
- Exit

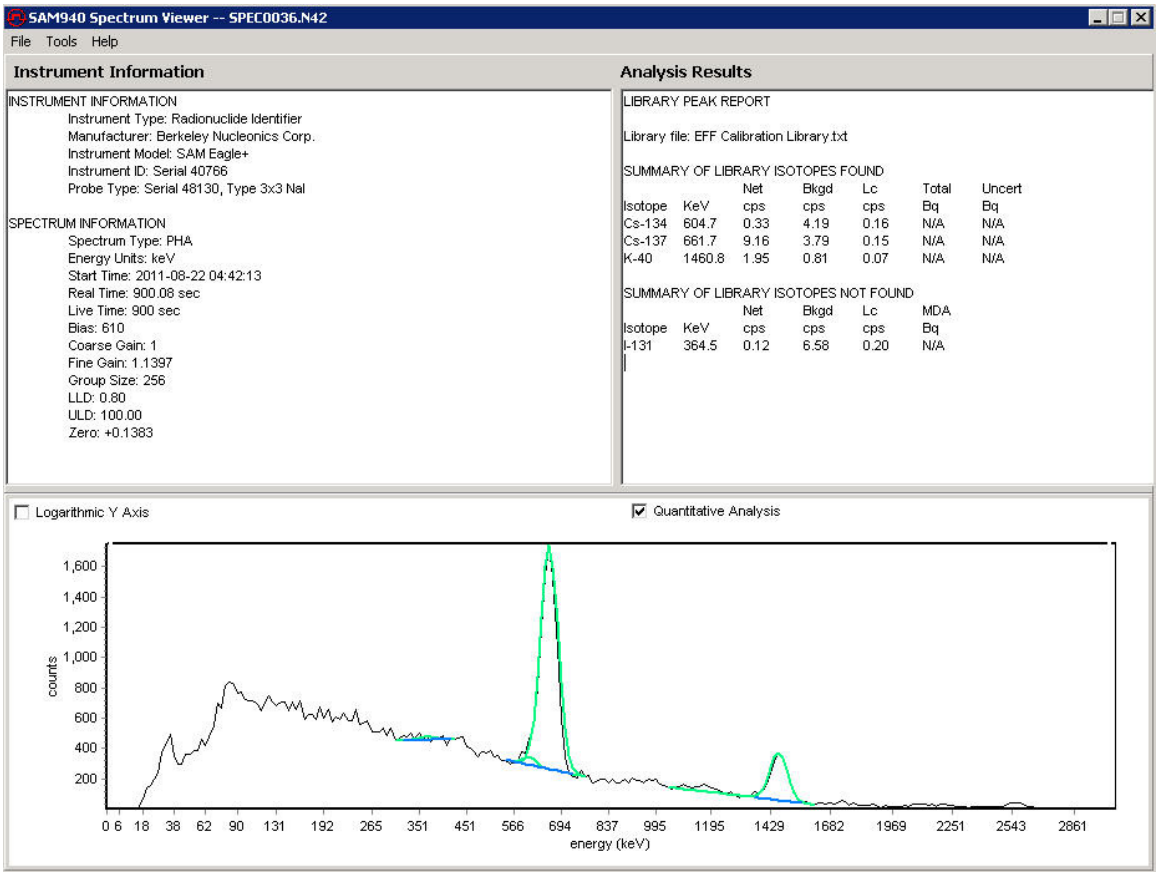
When selecting "Perform Eff Calibration" the Eff. Calibration library will be used for the calibration of I131 and/or Cs134/137 with the button as shown in the sub menu:
● I131 ● Cs134/137
Start Eff Calibration

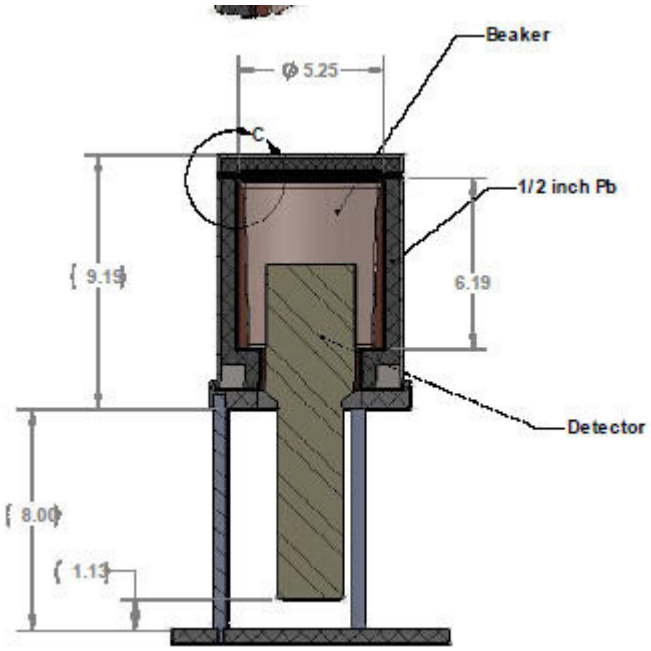
This gives the user the ability to perform calibration on iodine or cesium or both and then start the calibration. The Eff calibration is run for 15 minutes and at end of calibration the efficiency values are automatically placed in the Analysis Library. From this point on the Analysis library is used for calculating activity until a new efficiency calibration is required. Upon completion of the Eff calibration the spectrum with results will be shown (as presently displayed for Viewer 1.3). At this point Streaming Data is selected and a spectrum will begin to accumulate in the Viewer. The activity of each isotope will be calculated at regular intervals as selected in Preferences under the Tools menu. The default time for analysis will be one minute with selections ranging from 5 seconds to 15 minutes. At the end of each interval all analysis data may be saved in a user file. The data saved will consist of date, time, Instrument ID, Isotope ID, Bq and Uncertainty. EXIT stops the data recording and spectrum display.

Summary

The operation described above simplifies and automates the whole process of analyzing food and water samples with real time streaming data. The steps are as follows:

1) Select "Perform Eff Calibration" to start and complete the process of calibration. This calibration is only performed once for a given detector and sample configuration.
2) Select "Streaming data" to start the sample process. All data will automatically be displayed and stored for each time interval selected.
3) When Ready, press Identify to perform an analysis acquisition. Each Acquisition will be sent to Viewer automatically and saved on the CF card.
4) Analysis of concern can then be printed or processed accordingly (discarded, etc)
5) Select "Exit" to stop the process.


SAM940 Spectrum Viewer -- SPEC0036.N42
File Tools Help
Instrument Information
Analysis Results
INSTRUMENT INFORMATION
Instrument Type: Radionuclide Identifier
Manufacturer: Berkeley Nucleonics Corp.
Instrument Model: SAM Eagle+
Instrument ID: Serial 40766
Probe Type: Serial 48130, Type 3x3 NaI
SPECTRUM INFORMATION
Spectrum Type: PHA
Energy Units: keV
Start Time: 2011-08-22 04:42:13
Real Time: 900.08 sec
Live Time: 900 sec
Bias: 610
Coarse Gain: 1
Fine Gain: 1.1397
Group Size: 256
LLD: 0.80
ULD: 100.00
Zero: +0.1383
LIBRARY PEAK REPORT
Library file: EFF Calibration Library.txt
SUMMARY OF LIBRARY ISOTOPES FOUND
Isotope KeV Net cps Bkgd cps Lc cps Total Bq Uncert Bq
Cs-134 604.7 0.33 4.19 0.16 N/A N/A
Cs-137 661.7 9.16 3.79 0.15 N/A N/A
K-40 1460.8 1.95 0.81 0.07 N/A N/A
SUMMARY OF LIBRARY ISOTOPES NOT FOUND
Isotope KeV Net cps Bkgd cps Lc cps MDA Bq
I-131 364.5 0.12 6.58 0.20 N/A
Logarithmic Y Axis
Quantitative Analysis
counts
energy (keV)



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